



WATERnews

WATER QUALITY UPDATE FOR FAIRWINDS RESIDENTS

The Regional District of Nanaimo is working closely with the Fairwinds Community Association to address drinking water quality concerns. While the discolouration being experienced is not a health risk, residents have indicated that it is not acceptable and that action must be taken as quickly as possible to improve water quality. The RDN is committed to improving water quality in your community. This letter outlines a number of immediate, interim and long term actions to improve water quality.

In August, the RDN will hold a public meeting to update you on what has been done and what will be done to improve the water quality. You will receive a notice regarding the date of the public meeting.

Water Supply in Fairwinds

Fairwinds is part of the RDN's Nanoose Bay Peninsula Water Service Area. Part of the water source for the Fairwinds neighbourhood comes from four groundwater wells located in the Red Gap area. These wells mostly serve the Arbutus Park Estates, West Bay and Fairwinds neighbourhoods.

Each year from May to October, the Englishman River provides 40 per cent of the water supply to the Nanoose Bay Peninsula Water Service Area

(this Water Service Area includes the Fairwinds community). The remaining 60 per cent of the water supply comes from groundwater wells.

The water source is chlorinated and stored in three reservoirs prior to being distributed to consumers in the service area.

Water Discolouration – Why is it happening?

Iron and manganese are often found in a dissolved state in groundwater. Generally, the water appears clear when first drawn. Upon exposure to air, or after the addition of oxidants (such as chlorine), this ferrous iron is oxidized, or rusted, to the ferric state to form insoluble particles. The water then looks orange or yellow, or in the case with manganese, brown or black.

The addition of chlorine is required by the Ministry of Health under the system operating permit. Chlorine is added at the well source in Red Gap and then again as it enters the two reservoirs located on Notch Hill. While chlorine acts as an excellent water disinfectant it also reacts with iron and manganese which results in coloured water.

RDN Water Utilities removes settled deposits of iron and manganese and pockets of “stale” water by flushing water lines and by removing iron and manganese that has settled out in the reservoirs.

Water Quality Improvement Options

Shutdown of Fairwinds #2 and #3 Wells.


These wells are now shut down and replacement water is being provided through the Arrowsmith Water Service. This approach cannot be supported in times of heavy demand however, as both wells will be needed to maintain reservoir levels.

Modified Sprinkling Regulations

Effective immediately watering restrictions in the Fairwinds area only return to Stage 1 with sprinkling



continued



permitted on odd and even days but restricted to 6am-8am and 6pm-8pm. This is being done to reduce peak demand periods generated by Stage 2 which focuses sprinkling and high velocity flows into shorter periods of time. By moving to modified Stage 1 sprinkling peak flows can be reduced, which will allow for more settling and less scouring in the mains. High flow contributes to an increase in unsettled iron and manganese in the water. Your cooperation in the adjustment of your sprinkling timing and the reduction of your water consumption demand is appreciated. This approach will be reviewed and modified as required.

Well Sequencing Under this approach a number of community supply wells in the Nanoose Bay Peninsula Water Service Area will be operated such that the wells with less iron and manganese content will be drawn on more frequently than wells with greater concentrations of iron and manganese. Well sequencing will cost approximately \$120,000, and is covered in the RDN's 2009 budget. This project, originally planned for the fall of 2009, has a new completion date set for August.

Craig Bay Pump Station Upgrade This upgrade will increase the pumping capacity allowing surface water to be pumped directly to the Fairwinds reservoir in increased volumes. This project, originally planned for the fall of 2009, has a new completion date set for August.

Temporary Operating Permit Request for the Claudet Well

In 2008, a new well was drilled on Claudet Road. This new well is currently under review by the Ministry of Health for use as a community supply well in the Nanoose Bay Peninsula Water

Service Area. The RDN has requested a temporary operating permit for this well. Further testing is required before the Ministry of Health will consider this request. This new well will provide additional water to the system, allowing the RDN to reduce the use of the wells that contain higher levels of iron and manganese. The estimated cost to complete the well head and associated works is \$200,000, and is currently budgeted for.

Temporary Treatment Facility

The RDN is exploring the viability of a mobile treatment facility that could be incorporated into the water system on a temporary basis.

Fairwinds Well Treatment

The RDN has re-engaged Worley Parsons Engineering to look at treatment of just the Fairwinds/Westbay well group in order to reduce costs. They have been asked to consider a modular approach to treatment to allow additional wells to be added in the future, to re-assess treatment options and to assess the possible impact of added storage on water quality. Worley Parsons will complete this work by late-July, and the findings, including estimated costs for the project, costs for property owners and any additional operational costs, will be presented to residents during the public meeting in August. If supported, the establishment of a treatment facility may take up to two years to complete.


2006 Treatment Options Study

Full Treatment of Nanoose Bay Peninsula Well

Inventory: In 2006 the RDN contracted Worley Parsons Engineering of Victoria to complete a Water Treatment Pilot Study and Preliminary Design for

Iron and Manganese removal for the Nanoose Bay Peninsula Water Service Area. The final report received in April of 2008 indicated that costs for the treatment plant including the plant, property, piping and well pump upgrades would be in excess of \$4.7 million and an annual plant operating cost of \$64,050. This would have resulted in an additional annual cost of \$260 for each property within the Nanoose Bay Peninsula Water Service Area.

Due to the high cost of full treatment of all wells in the NBPWSA, the RDN Board supported a well sequencing program beginning in Fall 2009.



Please check this website for information and updates

You can visit this site at www.nanoosewater.ca.

THANK YOU

We appreciate your patience and understanding as we take the steps needed to improve the aesthetic quality of your water. If you have questions or comments, please call The Water Services Department at 250-390-6560 or 250-954-3792.